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*apoE4* gene allele in a biological sample of said subject indicates a predisposition to receive beneficial effects from a cholinomimetic drug.

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4. A method for identifying a patient sample in a clinical trial of a drug for the treatment of cognitive impairments, said method comprising:

(a) identifying a patient already diagnosed with said cognitive impairments, or as being predisposed to acquire or to be at risk for said cognitive impairments; and

(b) determining the presence of *apoE4* gene alleles in said patient, wherein an absence of *apoE4* allele places the patient into a group that either receives or does not receive said drug for said clinical trial of said drug.

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5. A method for identifying a patient sample in a clinical trial of a drug for the treatment of Alzheimer's disease, said method comprising:

(a) identifying a patient already diagnosed with said disease or as being predisposed to acquire or to be at risk for said disease; and

(b) determining the presence of *apoE4* gene alleles in said patient, wherein an absence of *apoE4* allele places the patient into a subgroup for said clinical trial for the treatment of said Alzheimer's disease.